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ABSTRACT

This study examined four causal attributions (ability, effort, task difficulty and luck) for success and failure in achievement and affiliation contexts across five countries (U.S., South Africa, Japan, India, and Yugoslavia) in three subject majors: teacher training, social science, and science. Each 5x2x3x2 analysis of variance assessed the effects of five countries, both sexes, and three academic majors repeated across both success and failure situations. Although there was some support of earlier studies of sex differences and western-eastern country distractions, the findings are more complex than previously determined using a single dimension and only one context. Results suggest more similarities than differences among subjects from the five nations studied. They believed their failures mainly due to lack of effort. Females attributed their achievement significantly less to contextual factors than did males. Education majors attributed more to context than did social science majors. Social affiliation was attributed more to ability than to other causes, and more so by females than by males. (Author/CTM)

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Multidimensional Attribution of Causality in Five Cross-National Samples

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Attribution of causality and locus of control of reinforcement are related concepts that have generated a voluminous research literature as characterized by several syntheses (deCharms, 1976; Lefcourt, 1976; Phares, 1976; Weiner, 1979). Locus of control refers to the attribution of causality to either external forces or internal forces. External forces are task (fairly stable) or luck (unstable); internal forces refer to ability (stable) or effort (unstable). Causal beliefs precede and partly account for subsequent action (Weiner & Sierad, 1975).

A number of researchers (Boor, 1976; Parsons & Schneider, 1978; Remains, 1977) have examined locus of control cross-culturally. Although Malikios & Ryckman (1977) suggested using a multidimensional approach in future cross-cultural personality research, no subsequent study could be located that followed their advice, except another study by Ryckman, Posses & Kulberg (1978). Most cross-cultural studies have used Rotter's (1966) locus of control scale or a variant of it. Research (Weiner, Heckhausen, Mayer & Cook, 1972) have indicated that the locus of control and stability dimensions have been confounded in the locus of control literature. Internality has been linked to a stable dimension (ability) and externality to an unstable dimension (luck).

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Studies by Dweck (1975) and Dweck & Repucci (1973) found that internality per se was not as powerful a predictor of goal directed behavior as the more specific causal attribution. Based upon this, Lefcourt (1978) has argued for goal specific measurements for both achievement and affiliation rather than only for the former.

The purpose of this investigation was to enlarge the locus of control research cross-culturally by using both a multidimensional (achievement and affiliation) and a multiattributional (ability, effort, task, and luck) approach for both success and failure.

METHOD

During the summer of 1978 professors in a number of universities throughout four continents were contacted. The following countries were represented: Japan, South Africa, U. S., Yugoslavia, and India. Appropriate translations of Lefcourt's (1978) Multidimensional-Multiattributional Causality Scale (MMCS) were made and validated. In order to standardize the administration and obtain comparable samples, the collaborators were given the following guidelines: a) age range: 19-24; b) approximately equal number of males and females; c) currently enrolled full time in the university or university preparatory institution; d) a minimum of 40 students in each of the following: social sciences (e.g., psychology or sociology), education (teacher training), sciences (e.g., chemistry, biology, or physics); 3) administered in class as a group in October or November.

The 48 item 5-point Likert formated MMCS consisted of 24 items tapping the achievement domain and 24 items tapping the affiliation domain, randomized. Within each domain there were six items for each of the attributions

(ability, effort, task, and luck) randomized equally across success and failure items. In a series of experiments Lefcourt (1978) has demonstrated adequate discriminant validity and acceptable reliability.

RESULTS

A set of six unweighted four-way analyses of variance with one repeated measure was performed for both affiliation and achievement attributions. Each 5x2x3x2 analysis of variance assessed the effects of five countries, both sexes, and three academic majors repeated across both success and failure situations. Each of the four causal attributions, ability, effort, context, and luck served as dependent variables. In addition, two composite indices were also used as dependent measures. An index of overall internality was obtained by summing the attributions for ability and effort (both internal) and subtracting those for context and luck (both external). Similarly, both stable attributions (ability and context) were summed while both variable attributions (effort and luck) were subtracted to provide an overall stability index.

Results are reported first for attributions for achievement and then for affiliation. Scheffé multiple comparisons were performed following significant ANOVA effects to assess the significance of difference among individual means. Simple effects (Winer, 1971) were assessed for significent interaction effects.

Achievement Attribution

The results reported in Table 1 for all achievement attributions indicate that subjects across all countries attributed their achievement more to their own effort ($M = 12.37$), than to their ability ($M = 9.50$), luck ($M = 8.74$), and the context ($M = 8.47$). Overall, subjects attributed

their achievement more to themselves than to external factors (M = 4.66), and more to variable than stable causes (M = 3.15).

Insert Table 1 About Here

Differences among the countries were significant for attributions to ability, context, and luck, and for the stability composite ($p < .001$ in all instances). Differences among the countries for effort attributions and overall internality were not statistically significant.

Individual Scheffé comparisons indicated that subjects from both Japan and Yugoslavia attributed their achievement to their ability significantly less than subjects from South Africa, the United States, and India. South Africans attributed achievement significantly more to context than either Japanese or Yugoslavian subjects. Americans believed that luck contributed to their achievement significantly less than did Indians, Japanese, or South Africans.

Finally, both the Japanese and Yugoslavian subjects believed the causes of their achievement were more subject to change (i.e. variable) than did the Americans, although subjects from all countries attributed achievement on the average more to unstable than stable causes. The final significant difference among countries was stronger beliefs in unstable attributions by the Japanese than by the South Africans.

In summary, these results suggest many more similarities than differences among subjects from the five nations studied.

Success/Failure

There were significant differences between the success and failure conditions, as well as significant country X success/failure interactions,

for all four attributions, as well as for both composite measures. Inspection of mean scores reported in Table 2, attributions for achievement successes, and Table 3, attributions for achievement failures, indicates that subjects across all countries attributed their successes significantly more than their failures to ability, effort, luck, and overall internality. Conversely, they believed their failures more than their successes were the result of the context and more variable causes.

Insert Tables 2 & 3 About Here

Subjects from all countries on the average attributed successes first to their effort (M = 12.54), than to ability (M = 11.47), luck (M = 9.40), and context (M = 7.99). For achievement failures, lack of effort (M = 12.20) was again the strongest attribution, followed by context (M = 8.94), bad luck (M = 8.09), and finally lack of ability (M = 7.53). Subjects reported a higher average of personal responsibility for successes (M = 6.62) than for failures (M = 2.70). While they believed the factors contributing to both success and failure were more variable than stable, this average was significantly higher for failures.

Country X Success/Failure Interactions

The interactions were statistically significant for all four attributions and both composite indices. Mean results reported in Tables 2 and 3 are depicted graphically for all four causal attributions in Figure 1, and for the two composites in Figure 2.

Insert Figure 1 About Here

Inspection of Figure 1 indicates that the Japanese were closest to attributing both success and failure equally to ability, while subjects from the other countries more strongly believed their successes were more the result of their ability than their failures were caused by lack of ability. Attributions of effort for success and failure were generally close across all five nations, as were context attributions, except for Yugoslavia and to a lesser degree South Africa. Subjects from both these countries believed that their failures more than successes were due to contextual factors more than subjects from the other three countries. Finally, subjects from all countries except India consistently believed that luck contributed more to their success than to their failure. Indians, on the other hand, reported luck as contributing equally to success and failure.

Insert Figure 2 About Here

On the composite indices depicted in Figure 2, subjects from all countries except Japan assumed more personal responsibility for their achievement successes than for their failures. Subjects from all countries except Yugoslavia attributed their failures more than successes to causes more subject to change (i.e. unstable) than to more stable causes.

Sex Differences

There was a significant difference between males and females on attributions to context, but not to ability, effort, or luck. Females ($M = 8.20$) attributed their achievement significantly less than males ($M = 8.73$) to contextual factors. Thus females ($M = 5.20$) were significantly more internal overall than males ($M = 4.12$). There was no significent difference between the sexes on the stability dimension.

In addition, there were several significant interactions involving sex. Figure 3 illustrates a significant ordinal sex X success/failure interaction for ability attributions ($P < .02$). Both males and females

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Insert Figure 3 About Here

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attributed their successes to ability (Male M = 11.52; Female M = 11.42) more than failures to lack of ability (Male M = 7.20; Female M = 7.86). Females, however, were slightly higher for the failure condition, while males were slightly higher for successes.

Significant country X sex ($p < .008$) and country X sex X success/failure ($p < .03$) interactions for context attributions are summarized in Table 4.

Insert Table 4 About Here

Figure 4 depicts this three-way interaction. There is little difference between males and females for success and failure attributions to context for both Japanese and American subjects. Larger differences exist for subjects from India (successful females lower than the others), South Africa (differences between males and females for success condition), and Yugoslavia (failure attributions greater than success attributions and males higher than females for both success and failure).

Insert Figure 4 About Here

In addition, there was a significant sex X success/failure ordinal interaction on the stability dimension ($p < .007$), with attributions for failure higher than for success for both sexes (see Figure 5). However,

females (M = 2.96) attributed achievement successes to variable causes more than males (M = 2.00), while males (M = 4.03) attributed failures to more unstable causes than females (M = 3.60).

Insert Figure 5 About Here

Academic Major

There were significant differences between students majoring in education, physical science, and social science on attributions to context ($p < .001$), luck ($p < .03$), and on the internality composite ($p < .001$). Differences for ability, effort, and stability were not significant.

Scheffé contrasts indicated that education majors (M = 8.97) made significantly higher attributions than social science majors (M = 8.02) to context, but that physical science majors (M = 8.41) did not differ significantly from either group. While the main effect for luck attributions was significant ($p < .03$), the more conservative Scheffé comparisons failed to yield significant differences among education (M = 9.11), physical science (M = 8.72), or social science (M = 8.40) majors. Scheffé contrasts did indicate, however, that social science (M = 5.90) majors were significantly more internal than education majors (M = 3.55), but not significantly different than physical science majors (M = 4.54).

In addition, there were significant country X major, country X major X success/failure, and country X major X sex S success/failure interactions for both effort attributions and for the stability dimension. The country X sex X major interaction for stability was also significant. Tables 5 and 6 summarize this information.

Insert Tables 5 and 6 About Here

Affiliation Attributions

The results for affiliation attributions summarized in Table 7 indicate that subjects across all countries attributed their social affiliations about equally to their effort (M = 9.97), ability (M = 9.82), and the situational context (M = 9.75), and less to luck (M = 7.84). Overall, subjects attributed their affiliations more to themselves than to external factors (M = 2.20), and more to stable than variable causes (M = 1.75).

In comparing these attributions with those for achievement reported in Table 1, several distinctions merit noting. Effort and luck appeared to play a larger role in achievement than in affiliation, while context was attributed more importance for affiliation. Ability attributions for both achievement and affiliation were very similar. While subjects indicated higher attributions for personal responsibility than for external causes for both, perceived personal control was higher for achievement (M = 4.66) than for affiliation (M = 2.20). Strikenly, affiliation was perceived as controlled by more stable causes (M = 1.75), while achievement by more unstable causes (M = 3.15).

Insert Table 7 About Here

There were significant differences among countries for ability ($p < .001$), context ($p < .003$), and luck ($p < .001$) affiliation attributions, but not for effort. There were also significant main effects for country on both the internality ($p < .003$) and stability ($p < .001$) dimensions.

Individual Scheffé comparisons indicated that Indians attributed their social affiliations significantly ($p < .01$) more to ability than did subjects from other countries, who did not differ significantly from each other. Americans attributed affiliations significantly less ($p < .05$) to contextual factors than did Indians, while no other significant differences among countries were reported. Indians, Japanese, and Yugoslavian subjects all attributed affiliation more to luck than did Americans ($p < .01$), while Indians and Japanese also attributed more to luck than did South African subjects ($p < .01$).

On the internality composite, the only significant difference was between Americans and Japanese, with Americans believing their affiliations were more subject to their personal control than did the Japanese ($p < .01$). South Africans, however, believed the causes of affiliation to be significantly more stable than did either the Japanese ($p < .01$) or the Yugoslavian ($p < .05$) subjects, while Americans also reported higher stable attributions for affiliation than did the Japanese ($p < .05$). Means for all these comparisons are reported in Table 1.

In summary, these findings suggest many more similarities among the subjects from these five countries than differences.

Success/Failure

There were significant differences between attributions for successful affiliations and unsuccessful affiliations for all four causal attributions included in the study, as well as for the internality and stability composites. In addition, significant country X success/failure interactions occurred for both composites and for all attributions except context.

A comparison of total attributions for affiliation successes reported in Table 8 with failures reported in Table 9, indicated that attributions for subjects across all countries were higher for ability, effort, and context and lower for luck for affiliation successes than for failures ($p < .001$ in all instances). In addition, all subjects reported significantly more internal attributions than external ($p < .01$) and more stable than unstable attributions ($p < .001$) for success than for failure.

Insert Tables 8 and 9 About Here

Affiliation sucesses were attributed most to the situational context ($M = 11.34$), while failures were attributed most to lack of effort ($M = 9.14$). Ability, effort, and context were considered more important and luck less important for success than for failure.

Country X Success/Failure Interactions

These two-way interactions were statistically significant for ability, effort, and luck attributions, and for both the internality and stability indices ($p < .001$ in all instances except for effort, $p < .005$). The interaction for context was non-significant in as much as subjects from all countries attributed context consistently higher for the success than the failure situation. Means reported in Tables 8 and 9 are summarized graphically in Figure 6 for all four causal attributions, and in Figure 7 for both composites.

Insert Figure 6 About Here

Inspection of Figure 6 indicates very little difference for Japanese subjects for success/failure ability attributions, with larger differences for the other countries. Differences were greatest for Japanese and American subjects for effort attributions. The interaction for attributions for luck appears to be more complex than for the other causes, with virtually no difference between success and failure for the Yugoslavians, while the Indians, South Africans, and Americans attribute luck as playing more a role for failure than success, while the opposite is true for the Japanese.

Insert Figure 7 About Here

Figure 7 indicates that only the Japanese perceived more personal control for failures than successes, while the Yugoslavians attributions vary approximately the same for both conditions.

Sex Differences

Females attributed social affiliation significantly more to ability, effort, and overall internal causes than did males. No significant differences occurred for context, luck, or overall stability. Means are reported in Table 10 for both sexes.

Insert Table 10 About Here

In addition, there were significant country X sex and country X sex X success/failure interactions on the internality composite. These results are summarized in Table 11 and Figure 8. For subjects from

Insert Table 11 About Here

India, little difference between success and failure was reported by

females, while males assumed more personal responsibility for successes than failures. For Japan, both males and females attributed failure more than success to internal causes, while females were comparatively higher for both conditions. For South African subjects, females took comparatively more responsibility for success and males for failure. Both American males and females attributed success more than failure to internal causes. Yugoslavian females' internal attributions were slightly higher for failure than for success, while the opposite was reported by males.

Insert Figure 8 About Here

Academic Major

The only significant main effect for academic major was on the internality composite. None of the differences for the four causal attributions nor for the stability dimension were significant. While social science majors (M = 3.00) attributed affiliation more internally than did either education (M = 1.82) or physical science (M = 1.77) majors, the more conservative Scheffé comparisons did not reach statistical significance.

There were also significant two-way country X major and sex X major interactions for internality ($p < .04$ for both). Means are reported in Tables 12 and 13. The only other significant interactions involving

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Insert Tables 12 and 13 about here

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academic major were a three-way country X major X success/failure and a four-way country X sex X major X success/failure interaction for effort attributions. These results are summarized in Table 14.

Insert Table 14 About Here

DISCUSSION

By not limiting cross-cultural comparisons to the internal-external dimension of locus of control within only the achievement context, this study provided more possibilities for comprehending the complexity of causal attributions. For example, some studies showed no sex differences and others differences. However, in this study it was clear that in overall achievement contexts there were no sex differences on the stability dimension. But when one examines only the success variable females in comparison tc males attribute to unstable causes significantly more frequently. With failures the pattern is reversed: males attribute to unstable causes significantly more frequently. Although this finding lends some support to the self-serving or ego-defensive hypothesis for males (if one fails it is a result of unstable causes whereas if one succeeds it is due to stable causes), for females the fear of failure may lead to a sense of surrender since stability ascriptions offer little hope for personal intervention. But since females were significantly more internal than males and attributing less than males do to contextual factors, the differences are apparently attentuated for females in the lack of causal ascription predictability for success events. By contrast, in the affiliation domain in which traditional females have typically excelled more than males, the pattern is less clouded. In comparison to males, females attribute affiliation significantly more to internal causes (effort and ability), which may partially explain the female edge in affiliation. The sex differences seem to center on the stability dimension in achievement and on the internality dimension in affiliation.

In part these findings support other studies which found Oriental countries more external than Western countries. However, these studies failed to distinguish attributions for success and failure. Such a distinction becomes apparent with the Japanese. In comparison with the other four countries in this study, the Japanese are the most internal in causal ascriptions for failures and the least internal for successes in the achievement domain. (The latter was similar also in the affiliation domain.) This pattern may be a reflection of socialization patterns where honor and duty are at stake. Success may reflect on duty to family and the larger social structure, external to the individual. In contrast, in failures there may be greater personal burden which might be reflective in the high degree of dependency observed in the Japanese. Indians, on the other hand, had attribution patterns completely opposite to the Japanese. They were the least internal for attributing failures and the most internal for attributing success in both the achievement and affiliation domains. Perhaps this is reflective of the immobility of the caste system. Nevertheless, according to Weiner's (1979) theory of motivation, this is the most positive combination for personal success and self-satisfaction. Interestingly, all countries, except Japan, took more responsibility for achievement successes than failures. Japan was also one of two exceptions in the affiliation domain as well. All countries (except Yugoslavia) attributed achievement failures more than successes to unstable causes. This suggests that when one fails it is not due to oneself or external variables but due to uncertainty or lack of stability.

The Japanese attributed achievement failures more to lack of effort than their successes to their own efforts in contrast to all the other

countries. In contrast, in affiliation all countries were consistent in higher effort attributions to success than to failures. Context attributions for all countries were higher for failure than success. Just the opposite was the case for the affiliation domain. This could reflect the possibility of changing one's performance and the difficulty of altering one's social relationship and status. In ability attributions the pattern was similar in both achievement and affiliation domains, i.e. higher ability attributions for success than for failure. This tends to support the ego-enhancing hypothesis. Finally, in the case of luck attributions only with the Japanese there is consistency across both achievement and affiliation, i.e. attribute luck for successes more than in the case of failures, which supports the finding of the Japanese being most internal for attributing failures.

It is surprising that the significant differences in causal ascriptions for achievement between majors occurred between social science and education students, rather than with physical science students. Social science students were significantly more likely to attribute causality to internal variables (effort or ability) in comparison to education students, who were more likely to attribute to context (external stable variable). Hence, one might assume that education students would take less personal responsibility for change in the achievement domain. On the other hand, in the affiliation domain there were no significant differences among the three majors. If indeed we would expect to see greater differences among the three academic majors in achievement, then it seems reasonable to assume differences in causal ascriptions for success/failure in achievement. Affiliation ascriptions, however, may tend to be distributed randomly regardless of academic major.

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Table 1

Mean Attribution and Composite Scores for Achievement

Country	Ability	Effort	Context	Luck	Internality	Stability
India	10.26	12.84	8.93	9.55	4.63	-3.20
Japan	8.46	12.23	7.80	9.27	4.13	-4.74
S. Africa	9.79	12.43	9.13	8.87	4.23	-2.37
USA	9.85	12.32	8.68	7.59	5.90	-1.37
Yugoslavia	8.62	12.04	7.80	8.44	4.42	-4.06
Total	9.50	12.37	8.47	8.74	4.66	-3.15

Table 2

Mean Attribution and Composite Scores for Achievement Successes

Country	Ability	Effort	Context	Luck	Internality	Stability
India	13.16	13.33	8.30	9.59	8.59	-1.46
Japan	9.89	11.77	7.59	10.10	3.97	-4.39
S. Africa	11.82	12.47	8.43	9.67	6.20	-1.89
USA	12.36	12.83	8.66	8.24	8.28	-0.05
Yugoslavia	10.11	12.29	6.97	9.39	6.04	-4.61
Total	11.47	12.54	7.99	9.40	6.62	-2.48

Table 3

Mean Attribution and Composite Scores for Achievement Failures

Country	Ability	Effort	Context	Luck	Internality	Stability
India	7.37	12.36	9.56	9.50	0.66	-4.93
Japan	8.03	12.69	8.00	8.44	4.28	-5.10
S. Africa	7.67	12.37	9.82	8.06	2.25	-2.85
USA	7.35	11.80	8.70	6.93	3.52	-2.69
Yugoslavia	7.14	11.79	8.63	7.49	2.80	-3.51
Total	7.53	12.20	8.94	8.09	2.70	-3.82

Table 4
Mean Context Attributions for
Countr· X Sex and Country X Sex X Success/Failure
Interactions for Achievement

Country	Success		Failure		Total	
	Male	Female	Male	Female	Male	Female
India	9.80	6.80	9.99	9.13	9.89	7.97
Japan	7.65	7.53	8.23	7.77	7.94	7.65
S. Africa	8.09	8.76	9.92	9.73	9.01	9.24
USA	8.72	8.61	8.66	8.73	8.69	8.66
Yugoslavia	7.31	6.63	8.96	8.30	8.14	7.47
Total	8.31	7.67	9.15	8.73	8.73	8.20

Table 5
Mean Effort Attributions for
Country X Sex X Major X Success/Failure
Interactions for Achievement

Country	Education						Physical Science						Social Science					
	Success			Failure			Success			Failure			Success			Failure		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
India	13.00	14.20	13.60	13.25	14.27	13.76	12.50	13.47	12.99	12.92	11.59	12.25	13.63	13.18	13.41	9.58	12.55	11.06
Japan	11.91	11.84	11.87	11.72	12.61	12.16	11.52	12.36	11.94	12.48	13.09	12.79	11.97	11.05	11.51	13.13	13.10	13.12
S. Africa	12.10	12.45	12.27	11.43	12.35	11.89	13.00	12.13	12.56	13.35	12.44	12.89	12.61	12.56	12.58	12.83	11.88	12.35
USA	12.56	13.03	12.79	11.22	11.58	11.40	12.48	12.73	12.61	11.74	11.47	11.60	13.60	12.59	13.10	12.80	12.00	12.40
Yugoslavia	11.88	11.73	11.80	11.25	11.09	11.17	13.00	12.38	12.69	10.00	12.00	11.00	12.00	12.78	12.39	13.67	12.72	13.19

Table 6
Mean Attributions for Stability for
Country X Sex X Major X Success/Failure
Interactions for Achievement

Country	Education						Physical Science						Social Science					
	Success			Failure			Success			Failure			Success			Failures		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
India	0	-2.60	-1.30	-5.50	-6.07	-5.78	.33	-3.24	-1.45	-7.17	-3.47	-5.32	0	-3.27	-1.64	-3.58	-3.82	-3.70
Japan	-4.69	-4.95	-4.82	-3.96	-3.64	-3.80	-2.86	-6.50	-4.68	-6.17	-4.32	-5.25	-3.50	-3.85	-3.68	-6.10	-6.40	-6.25
S. Africa	-1.52	-1.00	-1.26	-.90	-2.90	-1.90	-2.12	-2.13	-2.12	-4.69	-4.06	-4.38	-3.26	-1.32	-2.29	-3.61	-.96	-2.28
USA	.61	-.94	-.16	-1.56	-.52	-1.04	1.39	-.07	.66	-3.09	-2.20	-2.64	-1.07	-.23	-.65	-4.73	-4.05	-4.39
Yugoslavia	-5.25	-6.22	-5.74	-5.88	-3.53	-4.70	-5.67	-6.19	-5.93	2.33	-6.19	-1.93	-2.44	-1.89	-2.17	-5.89	-1.89	-3.89

Table 7

Mean Attribution and Composite Scores for Affiliation

Country	Ability	Effort	Context	Luck	Internality	Stability
India	11.20	10.31	9.78	8.90	2.84	1.77
Japan	9.42	10.23	10.25	8.58	0.83	0.86
S. Africa	9.64	9.70	10.10	7.19	2.06	2.86
USA	9.29	9.69	9.29	6.45	3.24	2.44
Yugoslavia	9.51	9.91	9.31	8.08	2.03	0.84
Total	9.82	9.97	9.75	7.84	2.20	1.75

Table 8

Mean Attribution and Composite Scores for Affiliation Successes

Country	Ability	Effort	Context	Luck	Internality	Stability
India	12.59	10.85	11.39	8.48	3.57	4.64
Japan	9.81	11.38	12.03	9.21	-0.04	1.25
S. Africa	10.20	10.23	11.60	6.22	2.26	5.35
USA	10.49	10.87	10.68	5.88	4.80	4.42
Yugoslavia	10.54	10.65	10.99	8.14	2.06	2.75
Total	10.73	10.79	11.34	7.59	2.60	3.68

Table 9

Mean Attribution and Composite Scores for Affiliation Failures

Country	Ability	Effort	Context	Luck	Internality	Stability
India	9.81	9.78	8.17	9.31	2.11	-1.11
Japan	9.04	9.08	8.47	7.95	1.70	0.48
S. Africa	9.09	9.16	8.60	8.15	1.50	0.37
USA	8.09	8.50	7.90	7.02	1.68	0.47
Yugoslavia	8.50	9.18	7.64	8.03	2.01	-1.07
Total	8.09	9.14	8.16	8.09	1.80	-0.17

Table 10

Mean Attributions for Males and Females for Affiliation

Attribution	Males	Females	p<
Ability	9.57	10.06	.02
Effort	9.76	10.18	.05
Context	9.83	9.66	NS
Luck	7.99	7.69	NS
Internality	1.51	2.89	.001
Stability	1.65	1.86	NS

Table 11
Means for Internal Attributions for
Country X Sex and Country X Sex X Success/Failure
Interactions for Affiliation

Country	Success		Failure		Total	
	Male	Female	Male	Female	Male	Female
India	2.93	4.20	-.23	4.44	1.35	4.32
Japan	-1.03	.95	.74	2.67	-.14	1.81
S. Africa	1.83	3.40	2.04	.95	1.94	2.18
USA	4.50	5.10	2.46	.90	3.48	3.00
Yugoslavia	1.24	2.87	.61	3.41	.92	3.14
Total	1.89	3.30	1.12	2.48	1.51	2.89

Table 12
Mean Country X Major Affiliation Attributions for Internality

Country	Education	Physical Sciences	Social Sciences
India	2.28	2.90	3.32
Japan	.08	.98	1.43
S. Africa	2.84	1.34	1.99
USA	3.52	2.80	3.40
Yugoslavia	.39	.83	4.88
Total	1.89	1.77	3.00

Table 13

Mean Sex X Major Affiliation Attributions for Internality

Major	Male	Female
Education	1.81	1.84
Physical Science	0.49	3.06
Social Science	2.23	3.77
Total	1.51	2.89

Table 14
Mean Effort Attributions for
Country X Sex X Major X Success/Failure
Interactions for Affiliation

Country	Education						Physical Science						Social Science					
	Success			Failure			Success			Failure			Success			Failure		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
India	11.50	11.31	11.40	7.50	9.08	8.29	9.31	10.33	9.82	10.23	10.08	10.16	11.36	11.27	11.32	10.05	11.73	10.89
Japan	10.92	11.44	11.18	9.31	9.33	9.32	10.20	12.82	11.51	7.83	10.18	9.01	11.17	11.75	11.46	9.00	8.85	8.93
S. Africa	10.33	11.24	10.79	9.86	9.29	9.57	8.65	10.38	9.51	8.91	8.81	8.86	10.83	9.95	10.39	9.57	8.55	9.06
USA	10.76	10.97	10.87	8.65	8.81	8.73	10.68	11.14	10.91	9.59	8.14	8.87	9.85	11.81	10.83	8.31	7.52	7.92
Yugoslavia	9.25	9.69	9.47	9.63	8.42	9.02	10.67	10.27	10.47	8.33	10.40	9.37	11.67	12.33	12.00	8.89	9.39	9.14

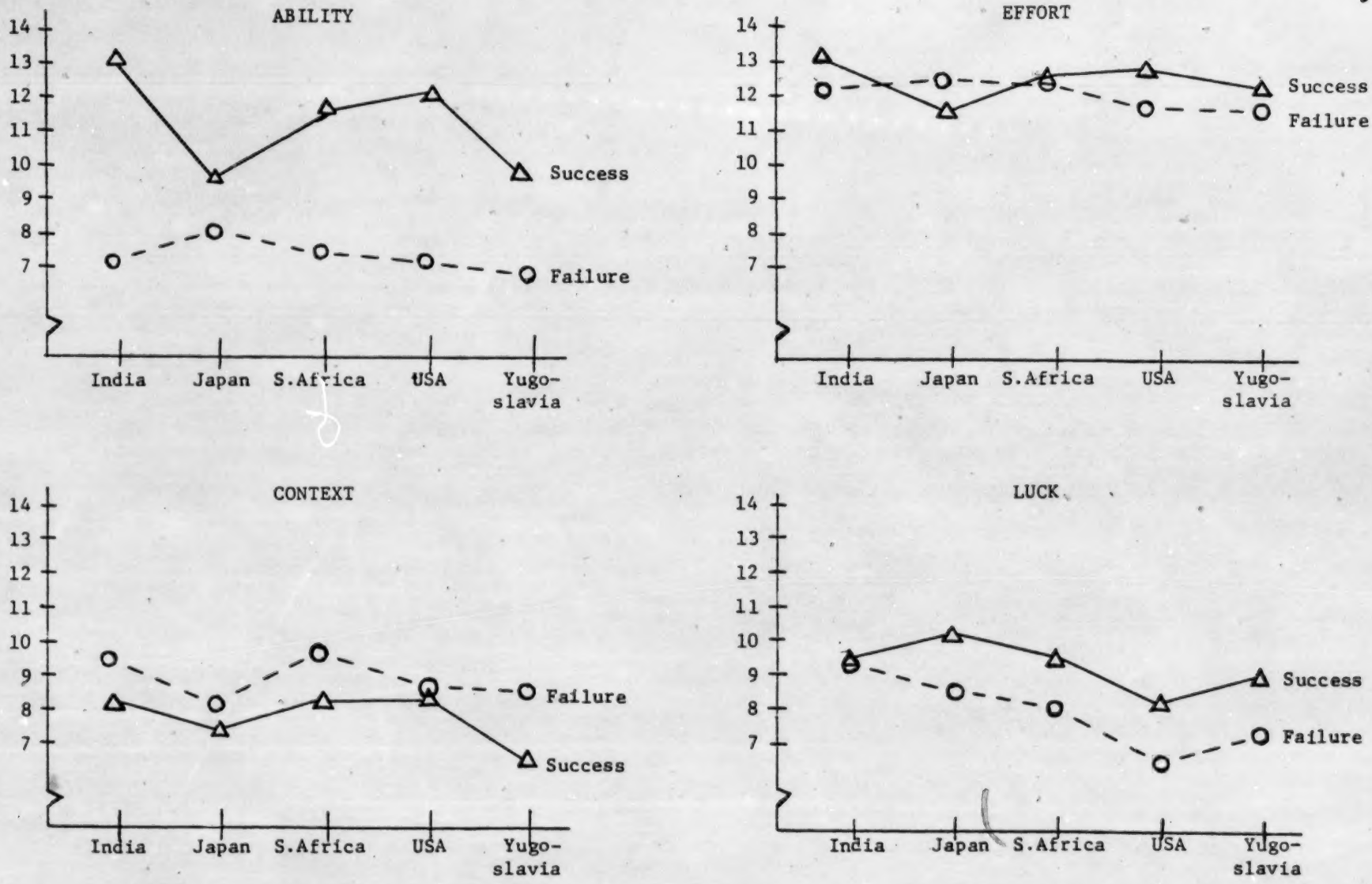


Figure 1. Country X success/failure interactions for four achievement attributions.

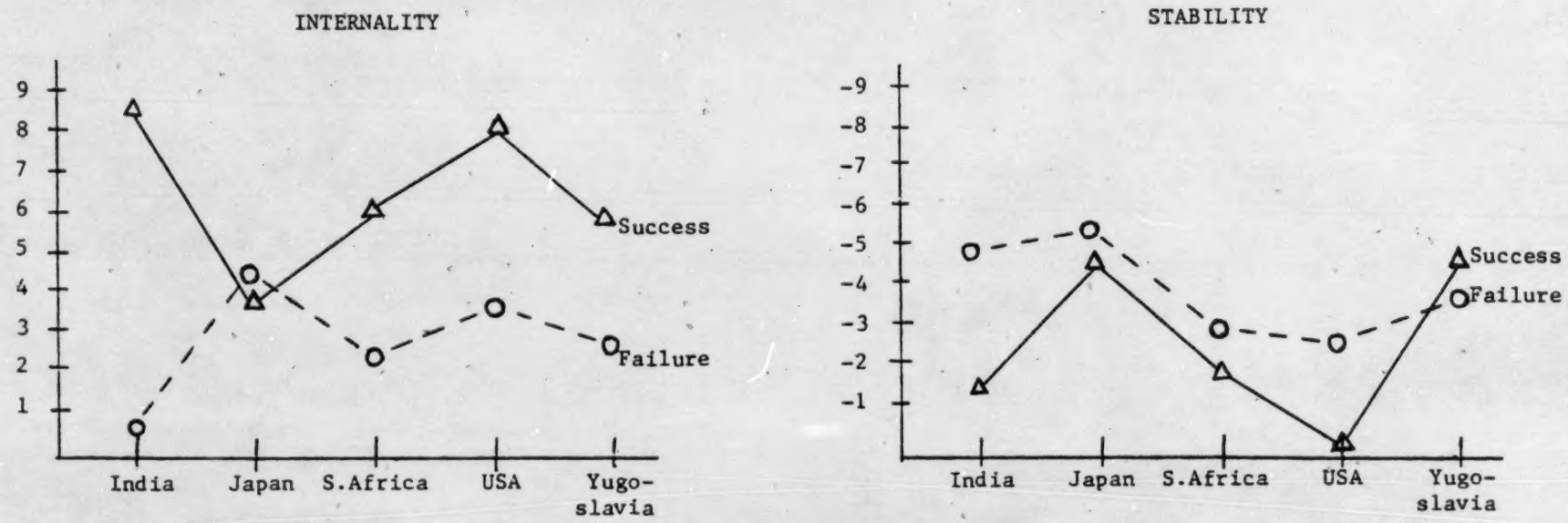


Figure 2. Country X success/failure interactions for internality and stability composites for achievement.

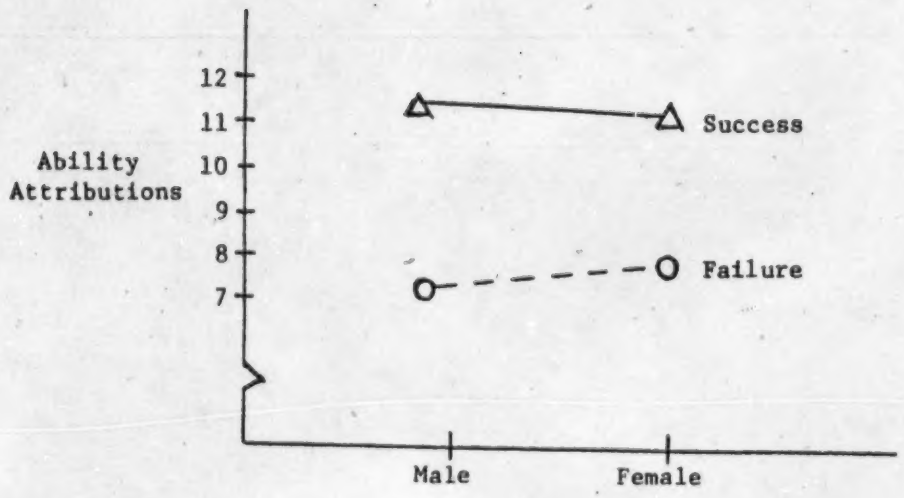


Figure 3. Sex X success/failure interaction for ability attributions for achievement.

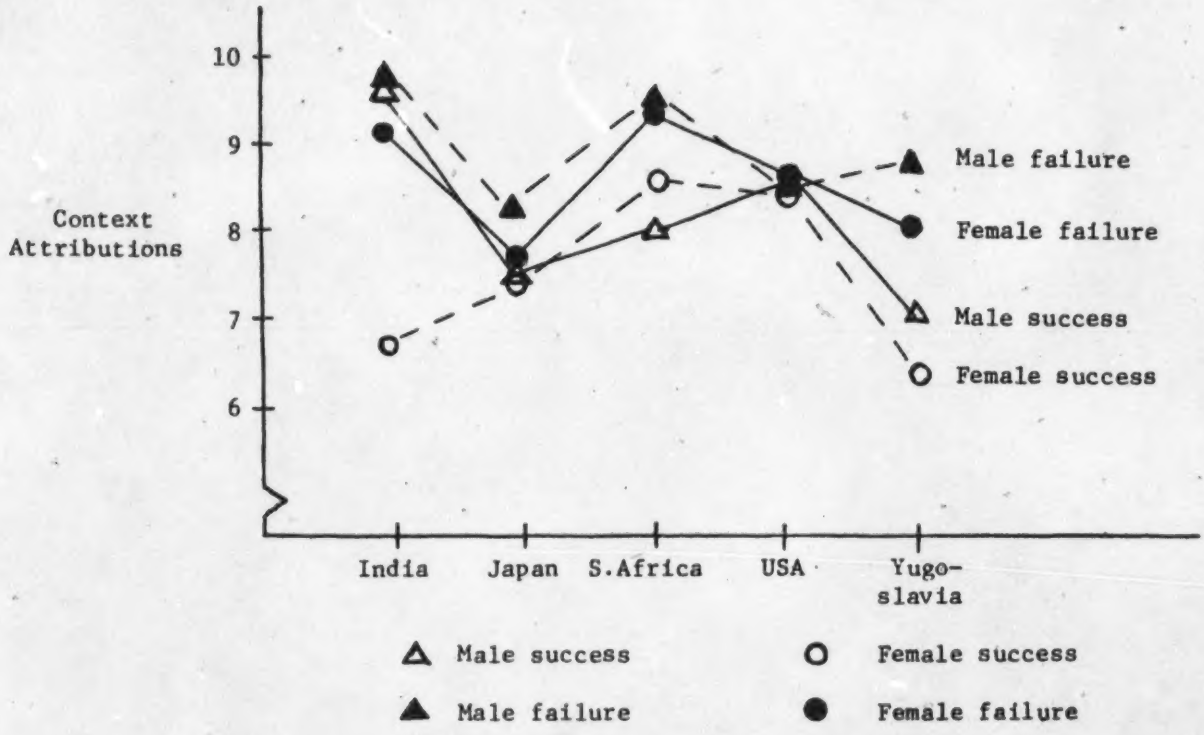


Figure 4. Country X sex X success/failure interaction for context attributions for achievement.

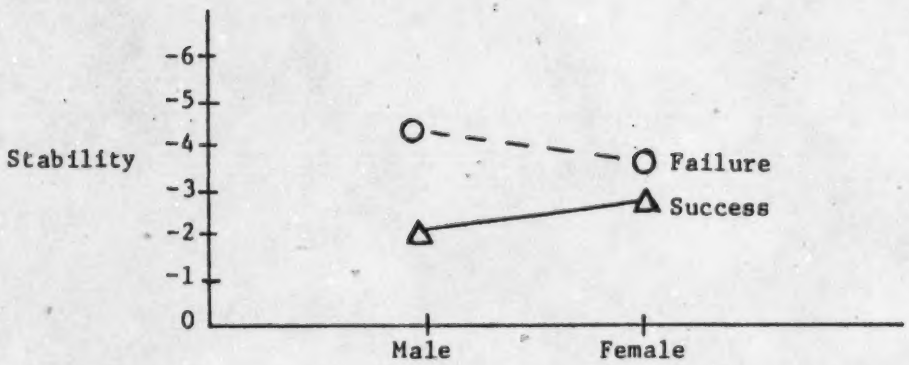
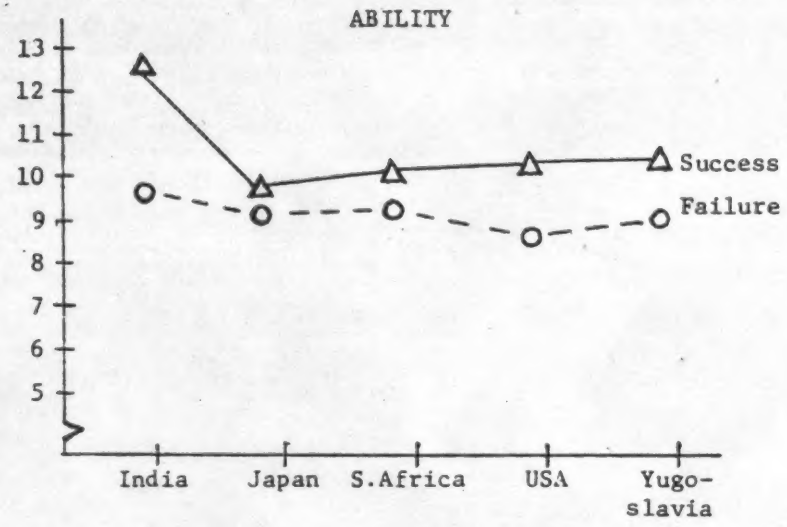
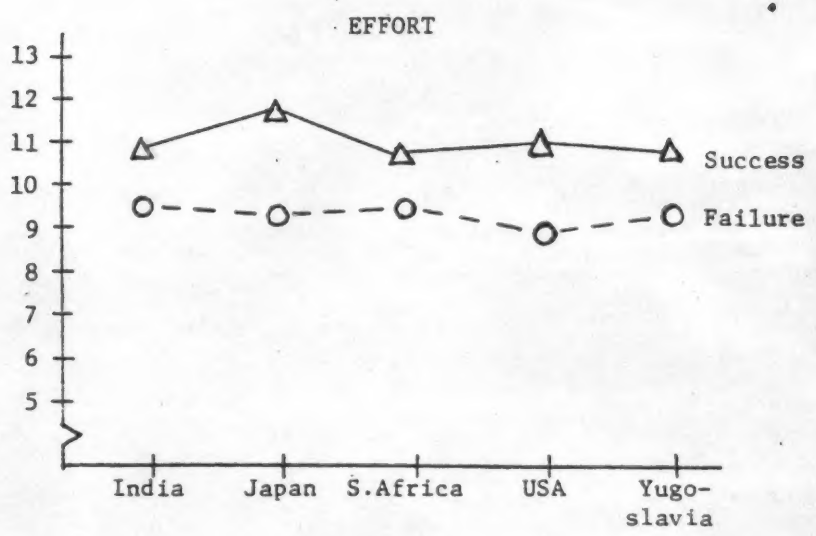
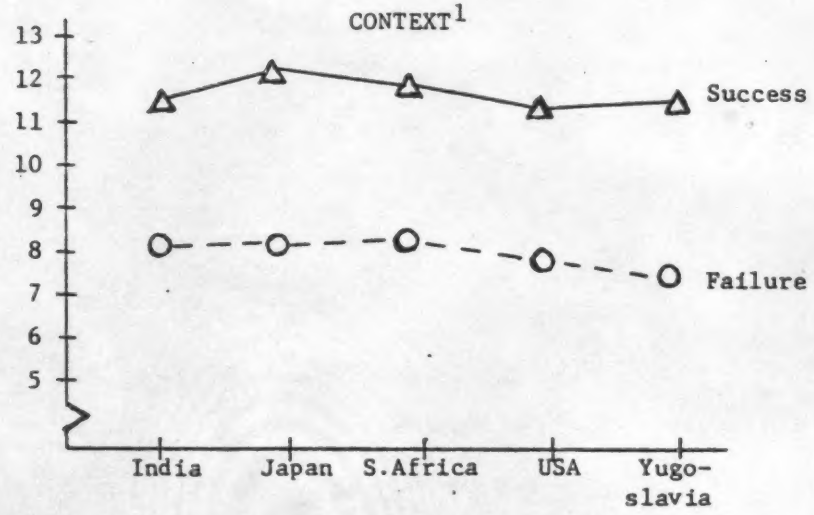


Figure 5. Sex X success/failure interaction for stability dimension for achievement.







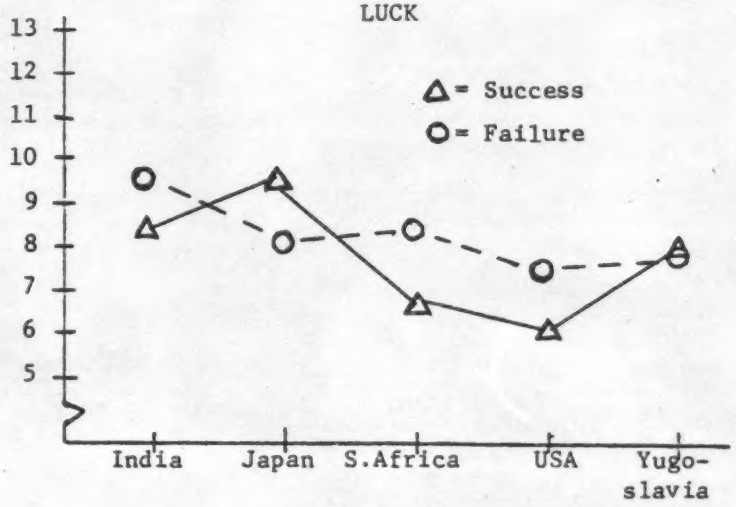
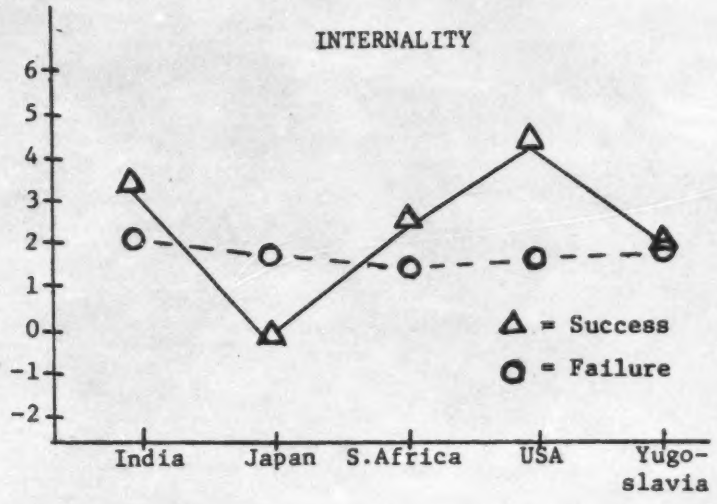


Figure 6. Country X success/failure interactions for four affiliation attributions.

[1]The country X success/failure interaction for context is not significant.



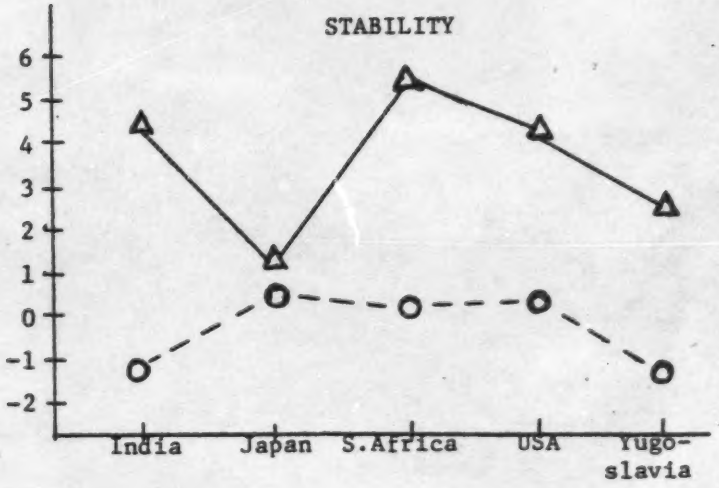


Figure 7. Country X success/failure interactions for internality and stability composites for affiliation.

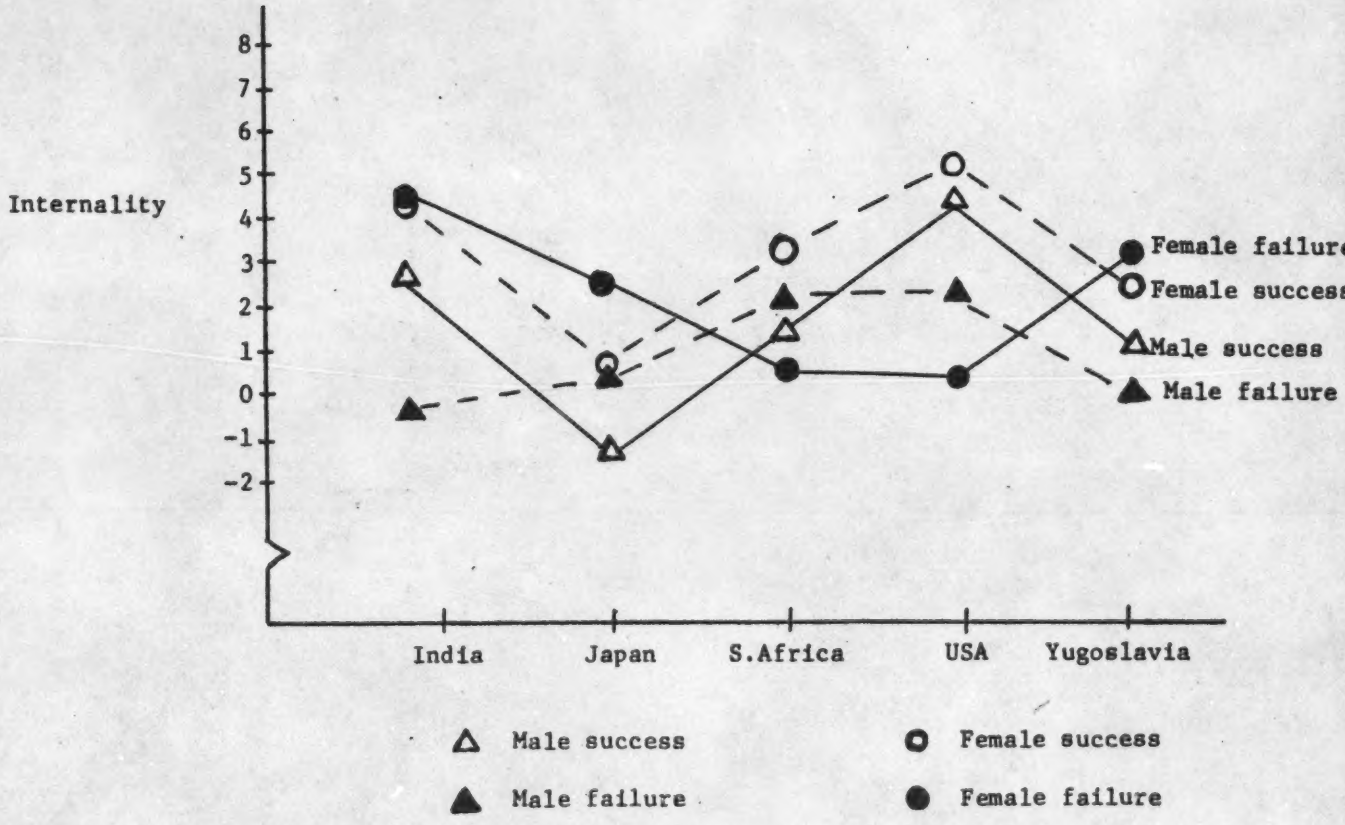


Figure 8. Country X sex X success/failure interaction for internality composite for affiliation.

Achievement Sample Size

Country	Country			Education			Physical Science			Social Science		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
India	78	35	43	19	4	15	29	12	17	30	19	11
S. Africa	131	70	61	41	21	20	42	26	16	48	23	25
USA	126	56	70	51	18	33	38	23	15	37	15	22
Yugoslavia	97	20	79	53	8	45	19	3	16	25	9	18
Japan	250	133	117	149	74	75	51	29	22	50	30	20
Total	682	314	370	313	125	188	179	93	86	190	96	96

Affiliation Sample Size

Country	Country			Education			Physical Science			Social Science		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
India	72	36	36	17	4	13	25	13	12	30	19	11
S. Africa	126	67	59	42	21	21	39	23	16	45	23	22
USA	119	52	67	49	17	32	36	22	14	34	13	21
Yugoslavia	98	20	78	53	8	45	18	3	15	27	9	18
Japan	250	135	115	148	75	73	52	30	22	50	30	20
Total	665	310	355	309	125	184	170	91	79	186	94	92